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on the sides of the neighbouring mountains are plenty, generally mineral, and might be diverted by the hand of the agriculturalist, to the great improvement of his grasses.

The state of cultivation is very low in this vicinity; few inclosures—the ground partially tilled, and little attention to planting, yet Dr. M'Donnell, Captain Richardson, and a few others, have lately set good examples, which it is to be hoped will be followed (not slowly) by minor characters.

The mineralogist may acquire a useful lesson in directing his researches for that valuable material, *limestone*: he will see, by viewing the extensive range of this bold coast, that it lies deeply buried beneath two strata of other stone.

The breed of cattle here is of rather an inferior kind, pigs excepted, which have been much improved of late by the introduction of the Berkshire breed, by the Rev. Mr. Dobbs. Might it not be advantageous to the *community*, if this laudable example was followed up by gentlemen of property, with respect to other useful domestic animals.

Permit me to conclude this sketch by asking, through the medium of your publication, the inhabitants of this lovely shore, if more industry would not tend to promote personal and domestic comfort?

A sphere of exertion now presents itself, in a factory nearly completed, for the purpose of spinning linen-yarn, presenting to the eye of the mind the pleasing prospect, under proper regulations, of improving both their wealth and their morals.

I am, Mr. Editor, yours, &c.
July 12, 1809. POPLICOLA.

For the Belfast Monthly Magazine.

Extract of an Essay upon the origin of Amber. Philosophical Transactions, No. 472. By the late Dr. John Fothergill; with some additional observations by John Coakley Lettsome, M. D.

AFTER all that has been wrote upon the subject of Amber, its origin is yet in a great measure unknown. Several ingenious men have searched into this affair upon the spot where the amber is principally gathered: they have related their observations with great candour; they have given us the conclusions they drew from the facts they discovered; yet without satisfying us entirely about many particulars.

But as a knowledge of the nature of things can only be acquired from the things themselves, I have carefully collected every material fact I could meet with, from those who were best acquainted with the natural history of this subject, and whose industry and accurateness in observing, and good faith in relating their observations, have been generally esteemed unexceptionable. Of these I shall only mention *Wigandus*, *Hartman*, and *Sendelius*, the last who has written, as far as I know, professedly on this subject.

The evidence which these gentlemen affords us, I have endeavoured to throw together, in the most natural order I could, without respect to any hypothesis. But as this enumeration of facts admits of no abridgment, my papers would take up too much room in your *memoirs*, therefore I can only refer to the essay itself. Upon this foundation of facts is built a discussion of the following problems:

1. Whether Amber is not strictly a marine production; or is reduced by some quality of the sea-water into the condition we find it in? or,
2. Whether it is not to be considered only as a bituminous body, generated in the bowels of the earth? or, lastly,
3. Whether it is not, in its origin, a vegetable production, a resin; but changed into its present form by a mineral acid?

It will only be necessary in this place to mention, that, after having shown the difficulty of maintaining the two first, I have undertaken to support the last of these opinions.

I endeavour to make it appear, that amber was, in its origin, a vegetable resin*; the product, perhaps, of the fir or pine kind*; by considering the appearance of the substance itself, and that though it has some distinguishing properties, yet it has many others, which are common to an indurated resin. Its aspect, its texture, its form, are arguments for this. The bodies which it is known to inclose are urged as proofs, that this inclusion could not happen in the sea, nor in the earth, but upon its surface; as the included objects are mostly animals, mostly volatile too; very few reptiles, except such as are often found aloft in trees, as ants, spiders, &c. and scarcely ever any aquatics are found in amber. And, I believe, I may challenge all the cabinets of the curious, to produce one instance of a marine body having been found naturally inclosed in amber. That there are several fictitious ones, is granted.

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* From the subsequent observations on mixing oils, resinous and pinguous substances, it appears that the author retained the opinion he had thus early adopted.

That this resin, with the trees which afforded it, were buried in the earth by the deluge, or by some such violent renversement, and there constitute the proper veins of amber, I likewise endeavour to make appear from the same evidence of facts. The substance of which these veins consist hath several genuine characteristics of wood still remaining. The texture of this substance is *often* an undoubted proof of what it hath been; being fibrous, and, when dried, swims in water, and burns like other wood. The amber is not disposed in these veins in one continued *stratum*; but lumps of it are irregularly disseminated through the whole of what I call the woody mass.

A difficulty which naturally offers itself in this place, is attempted to be removed. What proof have we that this, which is called wood, is not mere fossil wood, the product of creating power, exerted in the place where it is now found? It is answered, that as there are undoubted proofs, that many substances now occur, where they were not originally framed, we are under no greater difficulty in accounting for the change of place in one than the other. It is known that the *exuviae* of fishes are sometimes found on the tops of the highest mountains. The bones of large animals are met with at prodigious depths, where nature never formed, nor art conveyed them. Whole woods are found underground. The cause that effected these was capable of the other.

Yet, allowing these allegations to be just, by what causes is this change produced? It is urged, that time is one of the causes, and that the rest is completed by the acid of the earth, a vitriolic mineral acid. It is proved, from the facts above mentioned, that such an acid is present wherever amber occurs in its *proper matrix;* that it is sometimes found in the amber itself, in its genuine appearance; that the acid of the salt of amber appears, from experiments, to be vitriolic; that common turpentine (a known vegetable resin) affords, by *proper management* with a vitriolic acid, a considerable portion of the same chemical principles that amber does; that those pieces of amber, which have been found *soft* and imperfect, are nearly related to a vegetable resin: in short, it is endeavoured to be proved, that we have the ingredients of amber in our power, and that nothing is wanting but a *successful application* of them to each other, at least to procure the medicinal preparations of amber at an easy expense. Time and repeated trials may, perhaps, ripen this beginning, in somebody's hands, into an happy useful *imitation* of this valuable substance.

This account is concluded with an inquiry into the medical virtues of amber, and some of its principal preparations. It is observed, that a substance of so firm a texture, as scarce to yield to any common *menstruum*, is not likely to produce any considerable effects upon the human body; and that, indeed, there are very few genuine instances recorded of any: that busy imagination might, probably, at first, introduce it, prejudice support it, and engage men of parts and authority to recommend it to their inattentive successors.

I shall finish this abstract with remarking, that were some of the leisure moments of men of great abilities and experience, devoted to inform the world of the inefficacy of such methods and medicines as they have proved to be so, physic would be reduced into narrower bounds, they would merit the thanks of every one in the profession, and posterity, at least, would commend their endeavours.

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* This was the suggestion of Agricola, and of some more recent writers.

The foregoing Essay on Amber was printed in the Philosophical Transactions, when curiosity was much excited upon the origin of this valuable production: besides the authorities quoted in this place, the reader may meet with many others in James' Medicinal Dictionary, under the word *Ambra;* Philosophical Transactions, No. 19, p. 349; No. 248, p. 5; No. 468, p. 322; Dictionnaire Raisonnèe Universel de Matiere Medicale, tom. vii. p. 209, et suivant: Macquer Dictionnaire de Chimie, sous le mot *Succin*. Edit. 1778.

Though Amber was known to Antiquity, Frederic I. King of Prussia, was the first who rendered it an important commercial object. Amber is very common in this kingdom, and in some places lies almost on a level with the surface of the ground, so that the labourers collect considerable quantities of it in tilling the land. There are some parts of Prussia, where neither tree nor herb vegetates, where the ground is covered with a substance resembling the bark of a tree. Frederic caused this substance to be removed, under which was found a bed of black earth, and beneath this a bed of wood, in the veins of which, amber was discovered, greater in plenty in proportion to the quantity of this wood.

Some years ago, a considerable quantity of fine amber was found in Saxony, which has furnished four dissertations, printed in the collection of the Curiosities of Nature, an extract of which may be seen in the French edition of Henkel's Pyrithologia.

It is said that the king of Prussia has a burning mirror of amber, that is a foot broad, and free from blemish. There is, in the cabinet of the Duke of Florence, a fine column of amber, six feet high, and of the most perfect lustre. There are also vessels made of this substance with infinite labour. We are informed, that some years ago there was an artist in Prussia, called Samuel Som, who had not only the art of clarifying amber, and rendering it transparent, but also of dying it of any colour, and even to soften it and inclose insects in it, to make a gain of selling it to persons curious in these rarities.

For the Belfast Monthly Magazine.

At the present period, when the attention of the inhabitants of Belfast has been turned to the state of the poor, and to providing employment for them, as the best means of affording them substantial relief, we are induced to give an account of the management of the poor at Hamburgh, extracted from a publication on the subject by M. Voght, in 1796, and from the 23d report of the directors published in German, at Hamburgh, in January 1798, with some observations by the Bishop of Durham, as published in the 2d vol. of the Reports of the Society for bettering the Condition, and increasing the Comforts of the Poor.

In the beginning of the year 1788, an institution was formed for the poor at Hamburgh. Of 110,000 inhabitants in Hamburgh there were above 7000 distressed persons in want of regular relief, besides an average of 2,500 in the hospitals. There were peculiar circumstances attending this great and commercial city, which contributed to increase the number of poor, requiring assistance;—severe winters, heavy taxes on the necessaries of life, fluctuation of trade, the attraction of the poor from neighbouring countries in expectation of employment; and a great number of female servants at very low wages, of whom many must necessarily remain unprovided for, when age or sickness should unfit them for active service.

As soon as the outline of the plan was agreed upon, an arrangement was formed, that such revenues as till then had been expended in alms by the several church-wardens, and those the administration whereof had been connected with the work-house, should be united under one administration with the monies to be collected from private benevolence. The most respectable inhabitants went round per-